



FOREST MANAGEMENT NOTE

*Northern Forestry Centre
Note 64*

CAMPER CHARACTERISTICS AND PREFERENCES AT MANAGED AND UNMANAGED SITES IN THE FOOTHILLS MODEL FOREST

INTRODUCTION

The Foothills Model Forest is one of 10 model forests established across Canada in 1992 and funded by Canada's Green Plan under the Partners in Sustainable Development Program. In 1997, the model forest program was expanded to include an eleventh site. The Model Forest Network was initiated as a mechanism to help define and implement the concepts of sustainable forest management (Foothills Model Forest 1997). For forest management to be sustainable, it must incorporate the values of a variety of stakeholders, take into account the impacts of management decisions on these stakeholders, and be responsive to changing values (Bengston 1994).

The Foothills Model Forest is a non-profit corporation that represents a range of partners with management authority for the lands in the model forest. One goal of the Foothills Model Forest is to develop approaches to resource management that include values other than those associated with resource extraction. This requires an identification of stakeholders, their values and preferences, and how they will be affected by management decisions.

Although many people with diverse values, interests, and needs are legitimate stakeholders of the forest, resource users comprise one of the obvious and traditional stakeholder groups. Recreationists represent one of the major users of the Foothills Model Forest. An understanding of their activities in the forest and their participation characteristics is required to determine how they would be affected by management decisions.

A study was initiated in 1995 to examine recreational use in the Foothills Model Forest. Camping was chosen as an indicator of recreational use (McFarlane et al. 1996) because of the number of campers and their distribution throughout the model forest (McFarlane and Boxall 1998). Campers represent a diverse user group, with varying and sometimes conflicting values and management preferences (Lime 1974). Campers can be divided into subtypes that differ in their preferences for campground and natural resource management (McFarlane and Boxall 1996; McIntyre and Pigram 1992) and in their characteristics and preferences across camping opportunities (Shafer 1969; Lime 1974; Yuan and McEwen 1989).

The Foothills Model Forest offers a variety of camping opportunities. Unmanaged areas offer a primitive setting usually without facilities or services, provincial recreation areas offer a semiprimitive campground with basic facilities and services, and William A. Switzer Provincial Park offers a developed campground with many facilities and services, including showers, playgrounds, electrical hookups, and interpretive programs. This forest management note hypothesizes that the forest's varied camping settings attract different types of campers and that differences exist in characteristics and preferences between visitors to these areas. Understanding the diversity of campers in the model forest is necessary to provide satisfying recreational experiences, address management preferences of the camping constituent, and provide nontimber benefits from the forest resource.

In 1995 registration permits were collected from managed campgrounds in the Foothills Model Forest. Information obtained from the permits represented a census of campers at provincial recreation areas and William A. Switzer Provincial Park. The data provided an overview of campground use such as the number of campers, where they lived, their length of stay, and nonmarket values for each campground in the model forest (McFarlane and Boxall 1998).

This forest management note summarizes data from on-site interviews conducted with a sample of campers at provincial recreation areas, William A. Switzer Provincial Park, and unmanaged (random) camping areas in the Foothills Model Forest during 1996. The goal of this note is to determine the diversity of use and users among these three types of camping opportunities. Specifically, this note compares campers at managed and unmanaged sites. It examines why people random camp and describes the preferences for facilities at random camping areas.

METHODS

Study Area

In 1996, the Foothills Model Forest consisted of over 2.3 million ha in the foothills and Rocky Mountains of west-central Alberta. Jasper National Park was added to the model forest after the initiation of this study. Therefore, campgrounds in Jasper National

Park were excluded from the study. The study land base comprises primarily publicly owned land administered by the Province of Alberta and is managed for multiple use (Fig. 1). These uses include forestry, coal mining, oil and gas, and recreational activities. Provincial recreation areas and William A. Switzer Provincial Park make up the managed camping areas in the model forest and are under the jurisdiction of Alberta Environmental Protection.

Provincial Recreation Areas

Provincial recreation areas offer a semiprimitive camping opportunity. The campgrounds have drive-in sites, each with a picnic table, fire pit, and gravel tent pad. Other facilities common to the campgrounds include pit or vault toilets, firewood, and water pumps. The level of development, quality of facilities, and variety of recreational opportunities are generally homogeneous across these areas. In general, these campgrounds differ from those at provincial and national parks in that they are less developed, provide fewer services and facilities, and charge lower camping fees. In 1996 camping fees were \$7.00 and \$9.00 a night. Some campgrounds charged an additional fee for firewood. In 1996 most of the provincial recreation areas in the model forest were under private operation.

William A. Switzer Provincial Park

William A. Switzer Provincial Park, herein referred to as Switzer, offers quite a different camping opportunity from provincial recreation area campgrounds. Five campgrounds are located within the park and vary from basic service to full service with electrical hookups, flush toilets, showers, and dump stations. Playgrounds, interpretive services, several day-use areas, hiking trails, and a privately operated adventure lodge are also found within the park. In 1996 fees varied from \$7.00 to \$15.00 a night, with firewood available at an extra cost.

Unmanaged Camping Areas

Camping at unmanaged areas on public land (random camping) is legal and occurs throughout the model forest. Many unmanaged camping locations are accessible by car or motorhome. There is no fee for random camping, there are no facilities, and many areas are not close to communities. Consequently, supplies such as firewood, drinking water, and fuel are not readily available and campers

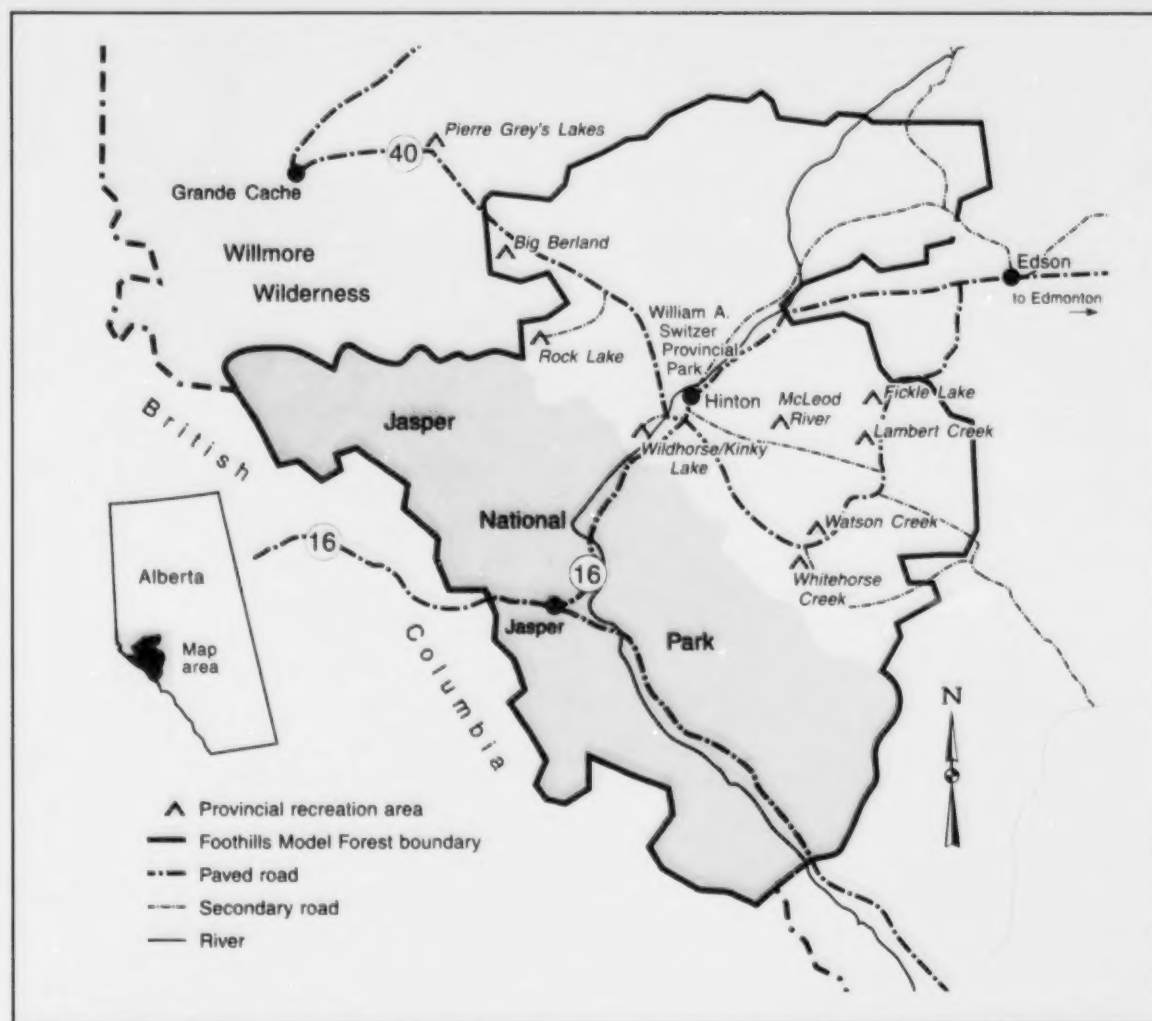


Figure 1. Location of the Foothills Model Forest and managed campgrounds sampled for the study.

must be self-sufficient. Random camping is a concern among land managers because of fire hazard, environmental impacts, and potential conflict between the different recreational users (e.g., off-highway vehicle users and horseback riders) and between recreational users and industry (e.g., off-highway vehicle users and the coal-mining industry).

On-site Interviews

On-site interviews were conducted with Alberta residents camping at the three site types during the summer of 1996. Interviews were conducted at 10 of

the provincial recreation areas: Big Berland, Fickle Lake, Kinky Lake, Lambert Creek, McLeod River, Pierre Grey's Lakes, Rock Lake, Watson Creek, Whitehorse Creek, and Wildhorse Lake (Fig. 1). Although Pierre Grey's Lakes is situated outside the model forest boundary, it was included in the study because it is a high-use campground visited by many local residents. All campgrounds in Switzer were sampled. Unmanaged sites were chosen based on information supplied by people familiar with random camping in the study area. Potential random sites were scouted during May and June and sites that appeared popular were chosen for sampling.

Interviews were conducted at 29 car-accessible random camping areas throughout the forest, from Muskiki Lake in the south to the Wild Hay River camping area in the north.

The on-site interviews for the provincial recreation areas and Switzer collected information on use patterns, trip characteristics, seasonal recreation use in the forest, and names and addresses for a follow-up mail questionnaire. The interviews for random campers included questions on why people random camp and facility preferences at random camping areas.

Interviews were conducted from the Victoria Day weekend in May through the Labour Day weekend in September. Most interviews were conducted in the evening between Thursdays and Sundays. On any sample day, all available camping parties in a sampled area were asked to participate in the survey.

A total of 1159 interviews were conducted at the managed campgrounds; 70% (805) were conducted in provincial recreation areas and 30% (354) in Switzer. A total of 277 interviews were conducted at unmanaged camping sites. Eight camping parties refused to take part in the survey. Of those interviewed, 91% agreed to participate in the follow-up mail survey.

The places of residence of respondents were determined based on a respondent's postal code. Respondents from Edmonton, Calgary, Hinton, and Edson were identified by the first three digits of their postal codes. Grande Cache residents were identified by all six digits. Respondents (excluding Grande Cache residents) were classified as "rural" if the codes started with "T0". All other postal codes were classified as "other cities and towns."

RESULTS

Trip Characteristics

Consistent with information from camping permits (McFarlane and Boxall 1998), the majority (68%) of campers expected to stay two or three nights at the campgrounds, suggesting that camping is primarily a weekend activity in the model forest (Table 1). More provincial recreation area users (72%) expected their visit to the campground to last for two or three nights, compared with

Switzer (63%) and random area visitors (65%). Provincial recreation area campers also had fewer one-night stays and stays longer than three nights.

Random campers tended to stay in larger groups than campers at the managed campgrounds. Forty-one percent of random campers had camping parties of more than five people, compared with 27% of provincial recreation area campers and 24% of Switzer campers (Table 2). The camping areas also differed in the types of camping parties. Camping parties at Switzer and provincial recreation areas comprised mostly families, with Switzer having the highest proportion (69%) of families (Table 3). Random areas had the lowest proportion of families (30%) but the highest proportion of groups consisting of combinations of family and friends (46%). Switzer had the lowest proportion of groups of friends (10%) while random areas had the highest (22%).

The place of residence of campers showed that the three camping opportunities attract campers from different market areas (Table 4). The local communities of Hinton, Edson, and Grande Cache combined comprised 55% of Switzer visitors, 37% of visitors to provincial recreation areas, and only 23% of visitors to random areas. Edmonton, Calgary, and other cities and towns outside the model forest comprised 60% of visitors to random areas, 50% of provincial recreation area visitors, and 41% of Switzer visitors. Rural areas comprised 17% of random area campers, 13% of provincial recreation area campers, and 5% of Switzer campers.

Use History

Overall, 62% of campers had previously visited the camping areas, suggesting most were familiar with the sites. Switzer had more first time users (41%) compared to provincial recreation areas (37%), and random campers (35%) (Table 5). Of those who had been to the area before, an average of 21.4 trips were made in the previous 10 years. Users had also been visiting the camping areas for many years. Thirty-seven percent made their first visit 1–5 years previously, 21% visited 6–10 years previously, and 41% visited more than 10 years previously (Table 6). No significant differences, however, occurred among the camping areas in the years since the first visit. On average it had been 11.4 years since a respondent's first visit. On

Table 1. Distribution^a (%) of campers' expected length of stay

Number of nights	Camping area			Total sample
	Provincial recreation areas	William A. Switzer Provincial Park	Unmanaged areas	
1 (stopover)	8.9	10.7	10.5	9.7
2 or 3 (weekend)	71.9	63.0	64.5	68.3
>3 (holiday)	19.1	26.3	25.0	22.0

^a Significant at $p < 0.05$ using χ^2 test of independence.

Table 2. Distribution^a (%) of camping party size

Number of people	Camping area			Total sample
	Provincial recreation areas	William A. Switzer Provincial Park	Unmanaged areas	
1 or 2	29.4	28.1	22.0	27.7
3 to 5	43.7	47.7	36.8	43.3
>5	26.9	24.2	41.2	29.0

^a Significant at $p < 0.001$ using χ^2 test of independence.

Table 3. Distribution^a (%) of type of camping party

Type of party	Camping area			Total sample
	Provincial recreation areas	William A. Switzer Provincial Park	Unmanaged areas	
Family	62.4	68.9	30.0	57.7
Friends	13.8	9.9	22.0	14.4
Family and friends	20.6	18.1	45.9	24.9
Alone	2.4	2.3	1.8	2.2
Other	0.9	0.9	0.4	0.8

^a Significant at $p < 0.001$ using χ^2 test of independence.

Table 4. Distribution^a (%) of camping party origin

Place of origin	Camping area			Total sample
	Provincial recreation areas	William A. Switzer Provincial Park	Unmanaged areas	
Edmonton	30.4	23.5	32.0	29.0
Calgary	1.0	1.1	1.5	1.2
Other cities and towns	18.8	16.1	26.2	19.5
Hinton	14.6	48.3	18.2	23.6
Edson	9.2	3.1	4.7	6.8
Grande Cache	13.2	3.1	0.4	8.2
Rural areas	12.9	4.8	17.1	11.7

^a Significant at $p < 0.001$ using χ^2 test of independence.

Table 5. Distribution^a (%) of campers' previous visits to camping areas

Visits in the previous 10 years	Camping area			Total sample
	Provincial recreation areas	William A. Switzer Provincial Park	Unmanaged areas	
0	36.9	40.9	34.7	37.5
1-5	30.3	27.8	27.8	29.2
6-10	10.2	7.1	16.3	10.6
>10	22.6	24.2	21.3	22.7

^a Significant at $p < 0.05$ using χ^2 test of independence.

Table 6. Distribution^a (%) of years since campers' first visit to camping areas

Years since first visit	Camping area			Total sample
	Provincial recreation areas	William A. Switzer Provincial Park	Unmanaged areas	
1-5	37.7	38.0	36.0	37.4
6-10	20.0	22.6	23.4	21.3
>10	42.3	39.4	40.6	41.3

^a Not significant at $p < 0.10$ using χ^2 test of independence.

average, Switzer campers expected to make more trips to the campground in 1996 (mean 3.1) than campers to provincial recreation areas (mean 2.7) or unmanaged areas (mean 2.2).

Recreational Activities

Visitors to the various camping areas participated in different activities. More random campers used off-highway vehicles and did sightseeing, caving, backpacking, and other activities (Table 7). Fewer random campers hiked, canoed, swam, birdwatched, or mountain biked. At provincial recreation areas, more people fished and went horseback riding. Switzer had the lowest proportion of campers who fished, went sightseeing, used off-highway vehicles, went caving, horseback riding, or backpacking. More people at Switzer swam, birdwatched, and mountain biked than at the other areas. These differences in activity participation reflect the different opportunities offered at the various camping areas. For example, off-highway vehicles are not permitted in provincial recreation areas or in Switzer, while several of the provincial recreation areas have good fishing opportunities. Switzer is the only area with a sandy beach for swimming as well as mountain bike trails, and a designated Watchable Wildlife Viewing site with good birdwatching opportunities (Alberta Forestry, Lands and Wildlife 1990).

Forty-five percent of campers also participated in fall or winter recreational activities in the Foot-hills Model Forest. Although campers at the areas did not differ in the proportion participating, they differed in the types of fall and winter activities (Table 8). Differences in fall and winter activities were similar to differences in summer activities. Fewer random campers fished, watched wildlife, hiked, or went sightseeing, cross-country skiing, mountain biking, or birdwatching than campers in the other areas. A larger proportion of random campers, however, used off-highway vehicles and snowmobiles. More campers at provincial recreation areas hunted and birdwatched, and fewer campers used off-highway vehicles and snowmobiles. More campers at Switzer watched wildlife, hiked, went sightseeing, canoed or boated, cross-country skied, and mountain biked than campers at the other areas. Switzer also had the smallest proportion of hunters.

Substitute Camping Sites

To determine substitute camp sites for the campgrounds, provincial recreation area and Switzer respondents were asked what they would do if the campground were full. More respondents from Switzer (81%) said that they would stay in another campground than those who camped in provincial recreation areas (63%). In contrast, more respondents from provincial recreation areas (24%) said that they would random camp if the campground were full. The higher proportion of provincial recreation area campers choosing random camping as an alternative probably reflects a preference for few facilities at campgrounds.

Reasons for Random Camping

The most frequently cited reasons for random camping were the ability to camp in large groups (60%) and the absence of rules or regulations (60%) such as being prohibited from riding off-highway vehicles in campgrounds or needing to keep pets on leashes. Respondents were about equally divided on the influence of camping fees on their decision to random camp. Being able to make noise was a factor for 54% of respondents, familiarity with the area influenced 46%, not having to pay for firewood influenced 32%, better fishing opportunities was cited by 22%, and the area's proximity to home was mentioned by 20%. Forty-eight percent cited other factors that influenced their decision. The most common of these other factors was the seclusion and privacy offered at unmanaged areas.

Facility Preferences at Unmanaged Sites

Random camping often poses management problems such as increased risk of forest fires and environmental impacts. Providing basic camping facilities such as fire rings and pit toilets at random areas could be one way to alleviate these concerns. Respondents interviewed at random areas were asked about the acceptability of basic camping facilities at these areas. Although 45% indicated they did not want any facilities at random camping areas, the majority were not opposed to basic facilities similar to those found at provincial recreation areas. Pit toilets were the most popular facility for consideration, with 31% of all random campers in favor, followed by picnic tables (22%), taps or pumps for drinking water (19%), firewood (17%), fire rings

Table 7. Distribution (%) of campers participating in recreation activities

Activity	Camping area			Total sample
	Provincial recreation areas	William A. Switzer Provincial Park	Unmanaged areas	
Walking or day hikes	84.5	83.9	72.9 ^a	82.1
Wildlife viewing	70.9	73.2	73.3	71.9
Fishing	67.6	46.1	56.7 ^a	60.2
Driving or sightseeing	53.5	48.3	67.5 ^a	54.9
Canoeing or boating	40.8	40.4	11.2 ^a	35.0
Swimming	26.2	41.5	21.3 ^a	29.0
Birdwatching	19.5	23.7	15.9 ^a	19.9
Mountain biking	16.9	21.8	13.4 ^a	17.4
Using off-highway vehicles	6.7	3.4	54.2 ^a	15.0
Other activities	7.0	9.9	20.9 ^a	10.4
Caving	10.2	1.1	14.1 ^a	8.7
Horseback riding	6.6	2.5	5.4 ^a	5.4
Backpacking	1.4	0.3	2.5 ^a	1.3

^a Significant at $p < 0.05$ using χ^2 test of independence.

Table 8. Distribution (%) of campers participating in fall and winter activities

Activity	Camping area			Total sample
	Provincial recreation areas	William A. Switzer Provincial Park	Unmanaged areas	
Camping	32.2	35.0	34.9	33.4
Fishing	27.6	27.7	17.6 ^a	25.7
Wildlife viewing	24.7	26.3	14.1 ^a	23.1
Walking or day hikes	22.6	27.1	12.7 ^a	21.8
Hunting	22.5	16.1	20.3 ^a	20.5
Driving or sightseeing	19.9	24.9	9.8 ^a	19.2
Using off-highway vehicles	13.2	15.0	25.4 ^a	16.0
Canoeing or boating	16.2	20.6	4.0 ^a	14.9
Cross-country skiing	11.2	19.5	6.8 ^a	12.4
Snowmobiling	9.1	12.4	15.9 ^a	11.2
Mountain biking	6.7	12.2	5.4 ^a	7.8
Birdwatching	8.0	7.6	3.6 ^a	7.0
Backpacking	4.5	3.4	3.6	4.0
Horseback riding	3.9	4.8	1.8	3.7
Caving	3.1	2.5	2.9	2.9
Other activities	2.6	3.7	2.5	2.9

^a Significant at $p < 0.05$ using χ^2 test of independence.

(13%), nature trails with educational material (9%), games areas (6%), cook shelters (4%), fish-cleaning tables (4%), and game-dressing areas (less than 1%). Twenty percent indicated they would like to see other facilities; the most commonly mentioned of which were garbage cans.

Comparison of Exclusive and Nonexclusive Random Campers

Only 34% of random campers indicated they camped exclusively at unmanaged sites. The majority of random campers also camp at national parks (49%), provincial parks (54%), provincial recreation areas (53%), and private campgrounds (26%).

Comparisons were made between respondents from random areas who camped exclusively at unmanaged sites and those who also used managed campgrounds (Table 9). Exclusive random campers had a longer use history and were more familiar with the areas at which they were interviewed. Eighty percent of exclusive random campers had been to the camping area before, compared to 58% of nonexclusive random campers. Of those who had

been to the area previously, 45% of exclusive random campers had made more than 10 visits in the previous 10 years and 51% made their first visit over 10 years earlier, compared to 25% and 34% of nonexclusive random campers, respectively. The two groups did not differ on the party size or party type, the number of nights they expected to stay, or where they lived. Of the recreational activities, the groups differed only on the proportion that caved: 18% of nonexclusive random campers but only 8% of exclusive random campers caved. More (53%) exclusive random campers visited the model forest for recreation in fall or winter, compared to nonexclusive random users (39%), but the two groups did not differ in their fall and winter activities. Consistent with their use history, 58% of exclusive random campers cited a history of using the area as a reason for random camping. Only 40% of nonexclusive random campers cited history as a factor in random camping. Lack of rules or regulations was a reason for 70% of exclusive random campers, compared to 55% of nonexclusive random campers. Exclusive random campers were evenly divided on wanting basic facilities at random camping areas. The proportion approving of basic facilities did not differ significantly between the two groups.

Table 9. Comparison of exclusive and nonexclusive random campers

Characteristic	Type of random camper	
	Percent exclusive n = 93	Percent nonexclusive n = 183
Camping characteristics:		
Visited the area before	79.6	57.9
>10 visits in previous 10 years	45.2	24.5
First visit >10 years ago	51.4	33.7
Activities:		
Caving	7.5	17.5
Fall or winter activities	52.7	39.0
Reasons for random camping:		
History of using the area	57.9	39.6
No rules or regulations	69.9	55.2

* Significant at $p < 0.05$ using χ^2 test of independence.

CONCLUSIONS

This study shows that campers are important users of the model forest. Many campers visit the model forest and spend many nights there (McFarlane and Boxall 1998). While in the forest, campers participate in a variety of recreational activities and camp throughout the model forest in close proximity to industrial activities such as forestry and mining. Campers recreate in the model forest during all seasons. Thus decisions about natural resources of the area will affect this user group, and the group's needs should be an integral part of natural resource management.

Some final observations on random camping patterns are warranted. Although random campers also use campgrounds, the results suggest that current campground opportunities are not meeting all of their camping needs such as the desire to camp in large groups and use off-highway vehicles. The provision of basic facilities such as pit toilets, picnic tables, water pumps, and garbage containers at popular random sites could reduce the environmental impacts and risk to wildfire and might be acceptable to many random campers. Providing areas that accommodate large groups with several camping units and sites that are separated from other camping parties, and permitting the riding of off-highway vehicles in the camping areas would provide the camping opportunity that many random campers are seeking. There are some campers, however, who camp exclusively at random sites and might never use a managed campground or an area with facilities, suggesting that random camping will not be eliminated from the land base. The provision of facilities at random areas might displace those who only random camp to other areas with no facilities. Half of the random campers surveyed cited camping fees at managed sites as a reason for random camping. Imposing fees for random camping could result in these campers dropping out of camping, going to managed sites, or refusing to pay the fee.

While 29 random sites were sampled in this study many more random sites exist throughout the model forest. This study sampled random areas accessible by car. Conversations with local residents suggest that many locals use off-highway vehicles to reach more inaccessible random sites that are not included in this study. There might, therefore, be more local residents random camping than suggested by these results.

Study results indicate that current users are seeking a variety of vehicle-based camping opportunities. By providing a range of opportunities from camping in areas with no or minimal facilities to campgrounds with many amenities, the Foothills Model Forest will help maximize and sustain the benefits to Albertans from forested public land.

By using camping as an indicator of recreation use and collecting information on where people live, their camping characteristics, and their activities, managers have a better understanding of the spatial and temporal distribution of recreation use and insight into the diversity of users. Recreational-use information should be collected on a regular basis (perhaps every 5 years) to monitor changes in the camping constituency and camper preferences, and to assess the impacts of these changes on the model forest. Although this study was conducted in the Foothills Model Forest, the findings suggest that natural resource managers in other areas of the province should also examine recreation groups using their land base. Some of the results from this study (for example, reasons for random camping and preferences for facilities at random sites) may be transferrable to other forest management areas; however, other information such as user numbers, characteristics, and activities on the land base should be collected on individual forest management areas and a monitoring program established to evaluate changing values and preferences over time. This information could be valuable in developing indicators of sustainable forest management and in determining the cumulative effects of management decisions on recreation users of public land.

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